

Wildland fires: Creeping and sudden disasters – part I



Dr Johann G Goldammer introduces this series, which will feature reports from the UNISDR Regional Wildland Fire Networks to provide readers with a world picture of the issues, myths and truths behind wildland fires across the planet

DURING THE LAST DECADE THE world has experienced a series of extremely severe wildland fire episodes which have been well documented by the media and created widespread public concern. Two general assumptions seem to be accepted publicly: That there is a trend of global increase of occurrence and destructivity of forest fires; and this trend is a precursor or indicator of global climate change. A closer look reveals that it is difficult to prove these assumptions as there is a lack of knowledge on the extent of historic fires and no comprehensive and reliable database of contemporary vegetation fires. Only with such data can it be proven whether we are currently experiencing a greater or lesser extent and destructivity of vegetation fires than in historic times. Also, more quantitative and qualitative information is needed on the occurrence of fires in those ecosystems that are either fire-dependent or fire tolerant.

Hundreds of millions of hectares of tropical and subtropical savannas and open forests, as well as coniferous forests of the temperate and the northern boreal zones, are quite well adapted to natural and even human-influenced fire regimes.

There is growing evidence, however, that the accumulated effects of population growth,

land use, deforestation, desertification, industrial development and fossil fuel emissions have created conditions that make ecosystems and humans more vulnerable and less resilient to fire. Extreme fire weather episodes have occurred over the last few years as a consequence of inter-annual climate variability. Land-use fires and wildfires have been widely observed in ecosystems that were historically not considered to be flammable at all, such as tropical rain forests or swamps and wetlands in most continents.

MOMENTUM

The incidence of fires burning under extreme conditions and affecting previously non-flammable ecosystems may serve as indicator of how the world would look in a scenario in which climate change has gained momentum; a world in which extreme weather will increase the likelihood of occurrence and destructivity of vegetation fires. It is expected that this trend will go along with post-fire secondary disasters, notably those caused by extreme precipitation events – resulting in flooding, erosion, landslides and the general impoverishment of forests and other lands.

In principle there are two time dimensions of wildland fire disasters. The sudden-onset, high-

intensity and high-severity wildfires, nowadays referred to as ‘megafires’, attract the most public attention. High-intensity fires are the result of high fuel loads, drought and extreme fire weather and are often uncontrollable, even when using advanced high-tech ground and aerial fire suppression equipment. High-severity fires have a deep impact on the ecosystem, owing to intense burning of above and below-ground biomass (trees, shrubs, herbs, humus layer, roots, organic soils such as peat), often as a consequence of drought and the long residence time of the fire, which allows it to consume all organic matter and destabilise the ecosystem.

Creeping fire disasters arise from a sequence of multiple fires associated with other human stress factors imposed on ecosystems, such as land use and environmental pollution which, together, are leading to progressive impoverishment, degradation and destruction of forests and other vegetation cover.

Both types of fires have one thing in common – they are leading to the depletion of terrestrial carbon, thus constituting one of the driving agents of the disturbance of global biogeochemical cycles, notably the global carbon cycle.

Although this trend is revealed by a wealth of scientific knowledge on the cultural, social,

economic and environmental dimension of fire in the Earth’s system, the gaps in fire management capabilities from local to global levels are evident. This situation and the expected trends are challenging the international community to address the problem collectively and collaboratively.

In recognition of the significant impact of vegetation fires on the global environment, economies and society, and the role of natural and anthropogenic fire as an important factor in maintaining stability, biodiversity and functioning of some ecosystems, several international consultations during the 1990s, including the Second International Wildland Fire Conference (Canada, 1997), recommended that a group and mechanisms be formally established under the auspices of the United Nations to facilitate international co-operation in addressing global fire needs.

INTER-AGENCY PLATFORM

In response to this recommendation and the need for implementing the strategic goals of the UN Convention on Combat of Desertification (CCD), the Convention on Biological Diversity (CBD), the UN Framework Convention on Climate Change (UNFCCC), and the Ramsar Convention on Wetlands, the Global Fire Monitoring Centre (GFMC) was founded in 1998, aimed at providing a global fire monitoring system and an interface between the fire science community, fire managers and policymakers.

This was followed by the creation of a dedicated international and UN inter-agency platform under the auspices of the UNISDR. Following a proposal by the GFMC and the World Conservation Union (IUCN), a Working Group on Wildland Fire was established in 2001 under the auspices of the UNISDR Inter-Agency Task Force for Disaster Reduction. This Working Group was co-ordinated by the GFMC and was operational until 2003.

The Working Group provided an international platform and forum aimed at bringing together the technical members of the fire community and the authorities concerned with policies at national to international levels in order to realise their common interests and commitments in fire management on a global scale. The Working Group looked at international collaboration, capacity building and human resource development, and reviewed mechanisms to support co-operation in forest fire management at bilateral, regional and international levels. It also examined the establishment of inter-country agreements aimed at sharing resources, personnel and equipment, and the components of such inter-country



agreements, including overall logistical, policy and operational level considerations. Most importantly, the Working Group initiated the establishment of the UNISDR Global Wildland Fire Network (GWFN) under which Regional Wildland Fire Networks would play a key role in developing partnerships and co-operation in fire management between countries.

In 2003 the International Wildland Fire Summit recommended principles and procedures for international co-operation in fire management. Furthermore, the Summit recommended pursuing international policy dialogue through the Regional Wildland Fire Networks organised under GWFN and co-ordinated by the UNISDR Wildland Fire Advisory Group (WFAG). In May 2004 the GFMC, the UN’s Food and Agricultural Organisation (FAO), UNISDR and the Global Observation of Forest and Land Cover Dynamics (GOFC/GOLD) drafted a paper: *Framework for the Development of an International Wildland Fire Accord*.

Regional consultations in 2004 recommended the development of informal partnerships, joint projects and formal agreements between government and non-governmental institutions that were essential to enable nations to develop sustainable fire management capabilities.

In 2004 the FAO and the WFAG/GWFN proposed the development of a non-legally binding International Wildland Fire Accord to the FAO Ministerial Meeting on Forests and the 17th Session of the FAO Committee on Forestry, March 2005 (COFO 2005). Both the Ministerial Meeting and COFO 2005 rejected the proposal of an ‘accord’. However, the ministers and forestry administrations called upon FAO, in collaboration with countries and other

Fires in Indonesia, 2007: Creeping fire disasters arise from a sequence of multiple fires associated with other human stress factors imposed on ecosystems, such as land use and environmental pollution
all photos: Brad Sanders, GFMC



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international partners, including the UNISDR, to develop a “strategy to enhance international co-operation on wildland fires”, in order to advance knowledge, increase access to information and resources and explore new approaches for co-operation at all levels, as well as developing voluntary guidelines on the prevention, suppression and recovery from forest fires.

In response, the FAO in 2006 co-ordinated the development of a Strategy to Enhance International Co-operation in Fire Management. The strategy is built upon four pillars:

■ Fire Management Voluntary Guidelines:

Constitutes a code of conduct and ethics for sustainable and integrated fire management;

■ Review of International Co-operation in Fire Management:

Provides a survey and proposals for international co-operation;

■ Fire Management Global Assessment:

Provides a global analysis authored by the UNISDR Regional Wildland Fire Network; and

■ Fire Management Actions Alliance:

An action-oriented endeavour to facilitate the use and promote the Guidelines and review experiences from applying the Guidelines.

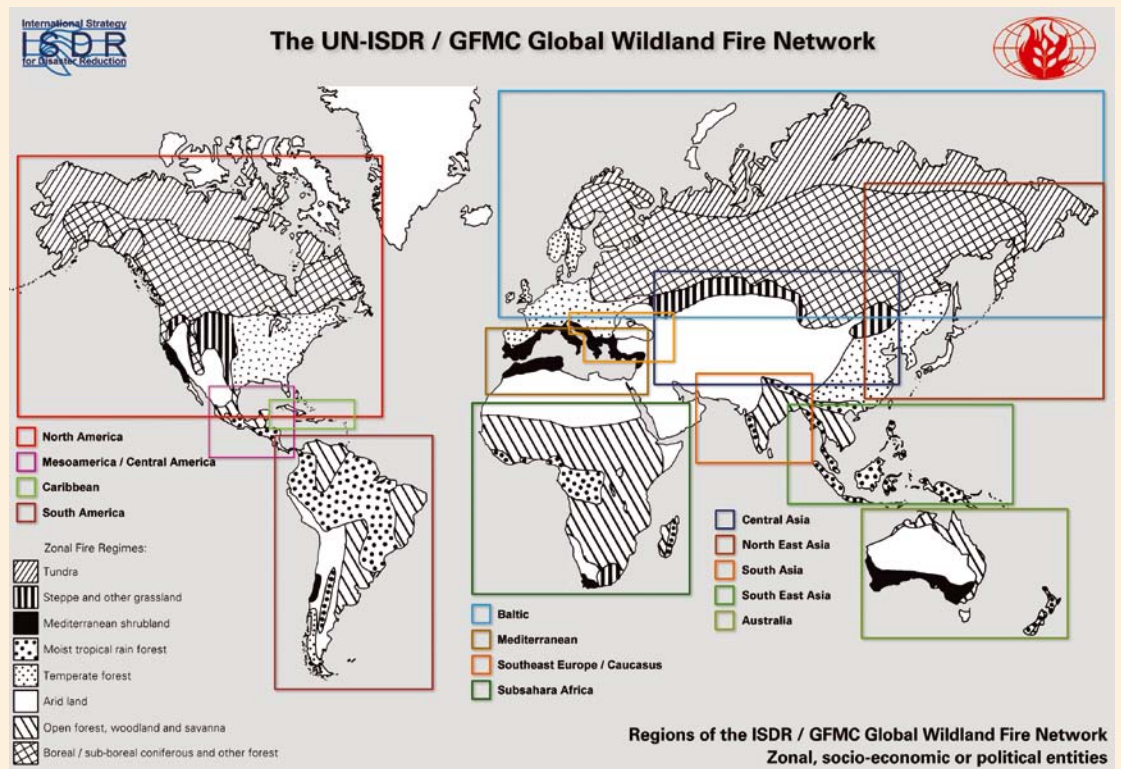
The four elements of the strategy were presented to the 18th Session of the FAO Committee on Forestry, March 2007 and to the Fourth International Wildland Fire Conference held in Seville, Spain, in May 2007, and endorsed by representatives of government institutions and fire management organisations respectively.

EXISTING NETWORKS

As mentioned above, one of the priorities addressed by the Working Group on Wildland Fire was the establishment of the Global Wildland Fire Network (GWFN). The concept of GWFN was to identify or establish Regional Wildland Fire Networks, preferably based on existing formal or informal networks structures and initiatives. The envisaged timeframe for setting up the network was January 2002 – July 2003. The Third International Wildland Fire Conference and the International Wildland Fire Summit were used as platforms to convene representatives from regional networks.

The Strategy for Future Development of International Co-operation in Wildland Fire Management agreed by the informal summit included the following recommendation:

“The Regional Wildland Fire Networks will be consolidated, developed and promoted through active networking in information sharing, capacity building, preparation of bilateral and multilateral agreements, etc. This process will be facilitated through regional Wildland Fire Conferences and Summits.”



UNISDR Regional Wildland Fire Networks: Australasia; Baltic; Caribbean; Central Asia; Mediterranean; Mesoamerica; North America; North East Asia; South America; South Asia; South East Asia; Southeast Europe/ Caucasus; and Subsaharan Africa

At the International Wildland Fire Summit a meeting was held with the regional fire management groups mandated under the auspices of the UN (UNISDR Working Group on Wildland Fire, ECE/FAO/ILO Team of Specialists on Forest Fire, Fire Management Working Group, FAO North American Forestry Commission [NAFC] and the Forest Fire Group of FAO Silva Mediterranea). This was the first joint meeting of the four UN groups. A key output of the joint meeting was the recommendation to maintain a body under the auspices of the UN to enable the international community to maintain a unifying platform for the UN and jointly with non-UN groups and agreements.

To support the work of the GWFN, the UNISDR Interagency Task Force for Disaster Reduction (IATF) accepted the proposal to create a Wildland Fire Advisory Group (WFAG) under the auspices of the UNISDR. The WFAG represents an advisory body to the UN system aimed at providing technical, scientific and policy-supporting advice to the UN family through the UN-ISDR and the IATF, and acting as a liaison between the United Nations system, the GWFN and its supporting partners.

The Fourth International Wildland Fire Conference in Seville provided a major step forward in organising the GWFN. The conference was attended by 1,531 participants from 88 countries.

Building on the outputs of the previous International Wildland Fire Conferences, one of the major objectives of this Fourth Conference was to provide a platform for a meeting of all Regional Wildland Fire Networks. All 13

regional networks contributed to the conference. In six joint regional sessions the Regional Wildland Fire Networks, representatives of the EC and other participants, discussed a self-assessment of the fire situation in the regions and formulated recommendations for future action in the regions, as well as globally.

In the following issues of *Crisis Response Journal* the co-ordinators of the 13 Regional Wildland Fire Networks will provide contributions on the current situation of their home region. The geographic scope of the 13 regional networks is given in Figure 1. These reports will address the very specific fire problems, the approaches in fire management typical for the region, and the bilateral or multilateral agreements in place to enhance co-operation in fire management specifically concerning mutual assistance during wildfire emergencies. CRJ

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